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Vol. XIII MARCH, 1943 No. 3

REPORT OF COMMITTEES ON STANDARDS OF PHYSICAL FITNESS FOR STUDENTS (BOYS) WHO ENGAGE IN COMPETITIVE ATHLETICS

In 1940 the president of the American School Health Association appointed a committee on "Standards of Physical Fitness for Students who Engage in Competitive Athletics." A preliminary report was made at the Atlantic City Meeting. These standards apply to boys only of high school and junior college level.

The committees in preparing these standards fully recognized that their application must be subject to individual differences of opinion and to other factors, such as; adequate staff, co-operation from physical education departments, and administrative backing. Owing to local situations, it is not always possible to enforce even the most desirable physical standards, and deviations from the ideal may occasionally become necessary. In some school systems it may be impossible to re-examine all athletes who have been absent for more than five days on account of illness, for renewal of their athletic permit. Where this is not possible the physical education director, undoubtedly, has increased responsibilities. There is also some difference of opinion regarding the practical value of urinalyses in the examination of athletes on account of the problem of orthostatic albuminuria in the adolescent and its interpretation. At this time, however, when the whole country is physical fitness conscious, it would seem opportune to use permission for participation in athletics as a stimulation to higher and higher standards of physical fitness. In most instances, we are also justified in using these standards as a lever to obtain desired action in the correction of correctible physical defects.

General Policy Governing Issuance of Athletic Permits

1. All students who wish to take part in an athletic contest must first obtain a permit based on a physical examination by a school physician, repeated when necessary.
2. All students who have been absent from school for more than five days on account of any illness must have a renewal of their

athletic permits by a school physician before they engage in athletics.

3. All students who have received major injuries* must have a renewal of their athletic permits by the school physician.
4. All students who have had two or more major injuries* must procure a special permit from the school physician which may be revoked at the discretion of the school physician.

Rules Governing the Physical Examination of All Athletes Applying for Permits to Enter Competitive Athletics (Boys)

The following rules will be observed in the preliminary examination of all applicants by the physician. The presence of any of these signs, of course, calls for more intensive examination.

General:	Allow no acute infectious condition.
Skin:	Allow no gross infection.
Eyes:	Allow no important infection. When glasses must be worn and would constitute a hazard, the pupil must wear a "cage."
Vision:	Allow 20/100 if corrected to 20/40; 20/40, 20/40 if neglected.
Ears:	Allow no infectious discharge.
Hearing:	Allow 0/20, 10/20.
Throat:	Allow no infection with or indication of absorption.
Teeth:	Allow no oral sepsis. Allow no more than one cavity 2 mm in size. All cavities including pit cavities must be filled within two weeks of notification.
Heart:	Blood pressures of above S. 130, D. 90 call for re-check and careful cardiac study. Allow pulse rate below 105 in recumbency for three successive examinations. Higher rates call for re-check and careful study. Allow no organic cardiac defect. Allow no functional condition in which exertion would be detrimental in the opinion of the

* Major injuries: Sprains, dislocations, fractures, head injuries, infected wounds and boils, incompletely healed lacerations, any injury which would make competitive contests a hazard or a detriment to the health of the individual student.

examining physician.
Allow no marked arrhythmias.
In appraisal of the heart condition some physicians are using exercise tolerance tests, including the Schneider test used in the Army.
In questionable cases, obviously, X-rays and electro-cardiograms will be required.

Lungs:
Allow no tuberculosis.
A chest plate should be required.
Policy regarding tuberculosis:
All cases should be re-checked every year.
A close observation should be kept on boys who are contacts to active cases.
Allow no competitive athletics for boys showing continuing weight loss or undue fatigue.
Primary infections.

1. Positive Mantoux, negative X-ray. No restrictions.
2. Positive Mantoux, hilar gland infection, calcified. No restrictions (if general condition is good) except for strenuous, sustained competitive sports, as basketball.

Re-infection tuberculosis.

1. Arrested cases. As advised by attending physician or clinic.
2. Observation cases. As advised by attending physician, or clinic.

Allow no pleurisy or history of pleurisy within one year.
Allow no asthma within six months.
Allow no history of frequent attacks of bronchitis.

Posture:
Allow no structural deformity of consequence in any part (e.g., below third degree scoliosis).
Allow no ankylosis of the extremities or of the spinal column.

Feet:
Allow for racial characteristics in Negroes, Jews, and Oriental races.

	Allow 3° fallen arches without subjective symptoms.
Nervous disorder:	Allow no grand mal epilepsy. Allow physician's own judgment in all other cases.
Endocrine disorder:	Allow physician's own judgment.
Hernia:	Allow none for football, basketball, baseball, track, tennis, and other major sports with the exception of golf and swimming when approved by the family or clinic physician. Allow no undescended testicle where exposed to pressure for football, basketball, or baseball.
G.U.:	Allow no nephritis. Where the local situation permits, a urinalysis should be required of all athletes.
Weight:	Allow no obvious underweight (where boy is definitely underweight in relation to his skeletal type.)
Postoperative conditions:	Allow physician's judgment; a written release from the operating surgeon is recommended.
Fatigue:	Undue fatigue, with athlete showing poor recovery at any time during the season, always calls for investigation.

5. Interpretation of standards qualifying students to take part in athletic contests must be left to the discretion of the physician of the school health service as the severity of the disqualifying defect and the type of sport involved will, of necessity, modify their application.

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* * * * *

WE PRACTICE WHAT WE PREACH

A Health Education Experiment at Thomas Jefferson High School, Los Angeles

GERTRUD SMITH, *Health Co-ordinator*

For several years students of Thomas Jefferson High School have been instructed in the cause, prevention, and symptoms of syphilis and gonorrhea. The members of the faculty responsible for this instruction, have always been convinced of its value, and students have been eager for the information. Nevertheless, some of those who are close to the health problems of these students felt that there was too great a chasm between what was learned and what was practiced. With the increase of tolerance and understanding on the part of lay persons in such matters, however, it became evident that the time had arrived when we might take more concrete measures to educate our boys and girls, and at the same time help control the spread of these diseases.

In May 1942 the Physical Fitness Program was inaugurated in the Los Angeles City Schools. Although this program was primarily planned for seniors, the general interest of other students at Jefferson was such that the Health Committee set up a Jefferson Health Certificate, the requirements for which exceeded those for the Senior Certificate. Students qualifying for the Jefferson Certificate were required to have proof of vaccination within the last seven years, to have had the Mantoux test for tuberculosis within the last year, and to have the Wassermann test for syphilis made during the school survey.

The Mantoux tests and the vaccinations were conducted on the school campus with the co-operation of the Los Angeles Tuberculosis and Health Association and the City Department of Health. Special arrangements were made through the Department of Health to have the Wassermann test conducted at the Los Angeles City Polyclinic in this community.

An educational program on tuberculosis was conducted in the school preceding the Mantoux tests; a similar program on smallpox preceded the vaccination; and a particularly carefully planned program preceded the Wassermann test. These programs included talks to the assembled gym classes (boys and girls separately) by physicians, nurses, and the health co-ordinator. Posters, bulletins, class discussions, and conferences were also used.

Since the Wassermann tests were taken at the Polyclinic about sixteen blocks from the school, a special organization had to be set

up for this program. Girls were tested on Monday mornings and boys on Friday mornings. Appointments were made for fifty students at a time upon receipt of the parents' signed consent. On the morning designated for him, the student reported to the two teachers in charge at the clinic at 8:15 a. m. After the tests had been made, students were conducted on a tour of the clinic following which the director explained the operation of the clinic and answered questions. Over five hundred students were tested, and their behavior at the clinic and attitude toward the program were excellent. The students returned to school in time for their third period classes.

This semester we have gone a step further in that arrangements have been made to conduct the testing program on our school campus. The state and city health departments are co-operating with us to make this possible. Again lectures and discussions were conducted to make sure the students understood the disease with which the testing program was concerned. Instruction also was given in the cause, prevention, and symptoms of gonorrhea. Students were urged to request conferences with the doctor or health co-ordinator if they suspected they might have been infected. Several students have already done so.

Wednesday morning is the time set aside for the Wassermann testing program. The clinic decided that because of the limited laboratory facilities, only one hundred and fifty students could be tested at a time. Appointments are made for students upon receipt of the parent's signed consent. Seniors received the first opportunity to be tested. Two doctors from the City Health Department take the blood samples; the school nurse checks to make certain the consent cards are signed by the parents; student nurse's aids assist the doctors; and the health co-ordinator is responsible for the general organization and conduct of the program. When the appointments are made, the yellow clinic card is filled out and the bottle for the blood sample is named and numbered. The number assigned each applicant appears on the consent card, on the yellow clinic card, and on the bottle so that there is no chance of error. Inasmuch as the clerical work is all done in advance and the students appear at a scheduled time, the testing moves very quickly. This saves time for the clinic personnel, for the school personnel, and takes pupils out of classes less than one period.

We have been deeply impressed with the wholesome attitude of our students toward this testing program and with their willingness to co-operate. The program is not primarily a disease-finding project but rather an educational one, and we feel that we have, in some measure at least, achieved success.

MEASURING DENTAL PROGRAM EFFECTIVENESS BY THREE EVALUATION DEVICES*

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Dr. Wheatley's** appearance on the program of the American School Health Association and Oral Health Group Joint meeting during this convention of the American Public Health Association is significant for several fundamental reasons. I shall confine my remarks to the two which, to me, seem most important.

The first point is, that Dr. Wheatley represents an organization that deals with the economic aspects of public and individual health. The second point is, that he has expressed his attitude on the dental phases of health by presenting the details of a very worth-while dental program, which has demonstrated democratic principles, which apparently are held sacred by the dental profession, by having the local practicing dentists be active participants in the community dental health program. This attitude is directly in line with the broadening concept of the practice of dentistry as related to local health problems.

To emphasize the significance of the first point, I wish to tell you about an experience I had in a meeting with a group of the Kansas legislators not so long ago. During this meeting the question was asked, "What is the specific objective in spending tax dollars for the public health and education of the youth of our country?"

The only acceptable answer forwarded was "To develop healthy, intelligent citizens." The appalling fact was then brought out that 50% of the first 2,000,000 selectees examined were unable to fulfill the duties of citizenship because they failed to meet the minimum physical and mental requirements of the army. This fact indicates how far past endeavors in public health and education have missed the goal. This great loss of health assets is certainly reflected in the armed forces, in industry, in school attend-

* Discussion of paper given by Geo. M. Wheatley, M.D., Assistant Medical Director, Metropolitan Life Insurance Company, entitled "A Physician Looks at School Dental Programs" at the Joint Luncheon Meeting of the American School Health Association and Oral Health Group, at the American Public Health Association Meeting in St. Louis, Oct. 28, 1942. This discussion presents the results of a state-wide dental program in rural and small city localities. These results are obtainable in other states if adequate funds and leadership are provided.—Editor.

** The paper of Dr. Wheatley appears in the American Journal of Public Health for February, 1943, page 120.

ance and in the cost of health protection. The specific problem facing dentistry, however, is that there is a loss of 20.9% of those examined because of bad teeth.

In discussing the second point, I wish to mention that in my communications with Dr. Wheatley he stated, in describing this fine dental program in Astoria, that his specific objective was "to emphasize the part the private dentist may play in the school dental program." He also said, "I think your experience in Kansas on a state-wide basis would be a desirable point of emphasis."

I think we will all agree that there are many effective approaches in the execution of a successful dental health school program. For example, in 1936 in Mississippi in the state program promoted by an educator, I visited many schools in which teacher after teacher proudly informed me that their classrooms had 100% dental corrections. Two state programs are under the direction of dental hygienists.

I have the annual reports of a school nurse in a large rural school (about 300 children, grades 1-8) in Johnson County, in eastern Kansas, which indicate the following results: In the year 1938-39—91.1% corrections; 1939-40—100% corrections; 1940-41—100% corrections, with 30 children under orthodontic treatment and no permanent teeth lost in 1941.

Just before I left Topeka for this meeting we received a report from the Seward County health nurse in the extreme southwest part of our state. In comparing the number of unfilled permanent teeth shown this year with figures given in last year's report, she has reduced the total number approximately 50% in one year.

John Morrell, Superintendent of the Beloit, Kansas, city schools, in 1937-38 was able to execute a 100% dental correction program for his entire school system without the aid of public health personnel.

In Goodland[1] and Winfield, Kansas, correlated activities of teaching, health, dental, and lay groups over a period of five years have reduced the loss of permanent teeth in 7th and 8th graders from approximately 33 per 100 children to 3.8 and 3.0 respectively.

In each of the programs in Kansas, the practicing dentists played their part by carrying out the technical phases of the program, and the teachers adjusted the part they played relative to classroom instruction and follow-up according to the assistance or lack of assistance available from health personnel.

In 1919 the Kansas Dental Association, in cooperation with the State Teachers Association, succeeded in having passed a law which permits school boards to hire local dentists to make dental inspections and to provide corrective services for needy children under the auspices of school authorities. The dental society also pledged the cooperation of its membership in the promotion of community school programs.

The picture, as viewed from the position of a state dental health director, is that the dentist and the teacher are the constant factors in all communities of the state excepting in areas wherein there are no dentists. In some counties there may be school public health nurses, in some there may be county public health nurses, in others there may be a city and/or county health department. Many counties and cities have no full time health personnel whatsoever. Only a few localities have available dental hygienists. The distribution of public health nurses is becoming more constant as time progresses. In Kansas the hygienists are few and widely scattered. Therefore, health personnel and hygienists represent the variable factors.

In recognition of these facts, and giving due consideration to the economic advantages, it is evident that a state-wide program can be based on the activities of local dentists and teachers, and also be sufficiently flexible to function under all the above variable conditions.

Likewise, it seems apparent that so long as the dentist, the teacher, the nurse and/or the hygienist, the clinician, lay groups and others have a specific part to carry out in a well correlated program, it can be successfully executed under the direction of any member of the professional group represented who possesses real executive ability.

This seems to be neither the time nor the place to argue the efficacy of philosophies relative to the details in the execution of the program. To quote R. H. McAlister, Director of the Physical and Health Education Department of the Wichita, Kansas, public schools, in a discussion we had in August of this year relative to philosophies, he said, "We, in Wichita, are going to stop wasting valuable time arguing the philosophies and spend this time entirely on follow-up. In our schools we shall use the nurses, the physician, the classroom teachers, the principals, and the gymnasium teachers for this purpose."

I believe, after these deliberations, we might say that a dental program can be measured by this criteria—"Does the program do

the job for which it was designed, and will it continue to do so year after year?"

To meet this criteria in a state-wide program, we found it necessary to state a specific objective, to present a flexible general program for the accomplishment of the objective, and to devise measuring devices to determine the effectiveness of programs over a period of one or more years.

The object is:

"To graduate the child from school with a healthy mouth, a complete set of teeth in good repair, and with the knowledge and desire to maintain the condition."

The program consists of:

"Annual dental inspection by local dentists in schools or in offices, classroom instruction and follow-up through the correlated activities of the teacher and public health nurse, and provisions for dental care for indigent children by welfare or other local agencies in local dental offices or in clinics."

The evaluation methods used are:

"Percent of corrections; number of unfilled permanent teeth, and variations of the lost permanent tooth index."

The fact that the Kansas State Dental Program bases its activities on the local practicing dentist and the local teacher, supplemented with the additional health personnel, when available, is evidence of concurrence of Dr. Wheatley and myself on the idea that the practicing dentist can be made a potent force in the successful execution of a local dental health program.

(I) Reference: Eighty-eight Per Cent Improvement after Five Years Execution of Dental Program—The Use of Expected and Distribution Tables for Evaluation Purposes. (J. A. D. A. Vol. 29, pp. 865-869, May, 1942.)

* * * * *

RHEUMATIC FEVER IN THE SCHOOL CHILD

By BETTY HUSE, M.D.

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Rheumatic fever kills more school children than any other disease. Census figures for 1940, compiled from death certificates, list 593 deaths in the age group 5 to 14 from "acute rheumatic fever" and 1,792 deaths from "diseases of the heart (all forms)." It is generally accepted that nearly all heart disease in children is caused by rheumatic fever—Paul[1] estimates 80 to 90 percent. Thus, about 85 percent of the 1,792 deaths from "diseases of the heart (all forms)" or 1,523, may be added to the 593 deaths from "acute rheumatic fever," to give a total of over 2,000 deaths caused by rheumatic fever. (The next largest number of deaths in this age group caused by any disease was 1,789—appendicitis. Pneumonia was third, with 1,472 deaths.) Rheumatic fever continues to be a serious threat to children of high-school age; although tuberculosis is the leading cause of death from disease in the age group 15 to 19 (3,375 deaths in 1940), rheumatic fever is second, with an estimated 1,500 deaths due primarily to this cause.

It might appear that more deaths are due to heart disease caused by rheumatic fever than to acute rheumatic fever itself. Actually, this is not true. Except in rare cases, a child with rheumatic heart disease dies because of rheumatic *infection*, not because of mechanical failure of the heart[2, 3, 4]. Postmortem studies, although they have not included large numbers of cases, have been remarkably consistent in finding that children who die of rheumatic heart disease show the pathology of active infection. (Table I) On clinical evidence, Martin[5] states that 80 percent of 431 deaths in his series of rheumatic children and young adults were due to rheumatic infection, 19 percent were due to causes unrelated to rheumatic fever or heart disease, and less than 1 percent were due to congestive heart failure. "The latter occurred in the older age group, the oldest patient being 34." Similarly, Coombs[6] reported that, of 100 rheumatic children who died, 86 percent had clinical evidence of active infection.

Actually, how serious is rheumatic heart disease as such to a child? It is of amazingly little consequence. At the end of 10 years of observation Jones[7] found that of 427 children with rheumatic heart disease, 67 percent were not at all limited in their activities, 28 percent were moderately limited, and only 5 percent

were markedly handicapped. Ash[8] found that of 208 children with rheumatic heart disease, followed for an average of 9.6 years, only 10 were "cardiac invalids"; 22 were suffering from recent recurrence of rheumatic fever; and all the rest (85 percent) were leading normal lives. Of his group of 1,438 cases followed for 20 years, Martin[5] reported that 499 had reached working age, and of these over 90 percent were able to work. Wilson[9] found that of 224 patients who had reached the age of 16 to 30 years, 88.8 percent were able to carry on their ordinary activity without circulatory symptoms.

The question as to whether deaths are caused by rheumatic fever or by mechanical damage to the heart secondary to rheumatic fever is far from academic. The whole approach to the problem is dependent on the understanding of this point. In tuberculosis, the physician treats the infection, not the pulmonary lesion; the patient dies of tuberculosis; not of the damage to the lung; the recovered patient is warned against recurrent infection, not told that he has a scar and will always have lung disease. In rheumatic fever, understanding of the situation has in the past seemed generally bad, even among physicians; and from the physicians this lack of understanding has been communicated to the child, his parents, his school teachers, the public-health nurse, the social agency, and the general public. Therapy, if it may be politely called so, has frequently been directed at the scars left by rheumatic fever on the heart, whereas the treatment and prevention of rheumatic fever as a general infection is often neglected. When it is realized that each attack of this chronic disease lasts about 6 months, the magnitude of the problem of prolonged illness caused by rheumatic fever is apparent. No figures or estimates can show the seriousness of this disease as related to the emotional and social upheavals and economic distress that it brings to the affected children and their families.

Fortunately, there is a growing realization that rheumatic fever is a public-health program of considerable significance and that vigorous methods must be taken for its control.

The United States Children's Bureau in 1939 set aside some funds (granted for services to crippled children under the Social Security Act, title V, part 2) for the development of State programs for children with rheumatic fever. These funds were to be used for finding rheumatic children and for diagnostic, treatment, and after-care services[10, 11, 12]. To date, 14 States have inaugurated these services: California, Connecticut, District of Columbia, Idaho,

Iowa, Maine, Maryland, Minnesota, New York, Oklahoma, Rhode Island, Utah, Virginia, and Washington. Because the amount of available funds was small, and because the States wished to learn on a small scale how best to handle the problem, most of these programs serve only a small part of the State—two or three counties. Pediatricians with special training in the treatment of rheumatic fever direct the services.

Case-finding has been in most instances a relatively easy problem—relatively easy in the sense that as soon as the services were announced so many children were referred that the diagnostic clinics were crowded and the available hospital and convalescent beds were filled. A large proportion of the cases have been referred by private physicians, some for expert diagnostic service alone, some for complete care. Other children have been referred by various public-health clinics, hospitals, schools, public-health nurses, social agencies; and, in some cases, the parents and friends have taken the initiative in getting a child to the clinic.

When a child is found to have acute rheumatic fever, hospital care may be provided him with public funds. During the long chronic stage of the disease, which may last 6 months or more, the child is kept in bed under the care of a pediatrician, usually in a special convalescent home or a convalescent ward of a hospital, sometimes in his own home. Facilities for the long-time care of children with rheumatic fever were found by the State agencies administering rheumatic-fever programs to be grossly insufficient, and great ingenuity has been used in developing new resources. It is a considerable achievement, therefore, that in the first 2 years of programs nine State agencies are using for this purpose a total of over 200 beds which were not previously available.

The States have also been inventive in finding ways to meet the educational, recreational, and social needs of children who must be in bed for such long periods of time. In some States the department of education is prepared to meet this type of situation by sending teachers to the hospital, the convalescent home, or the child's own home. In other States new laws have had to be introduced before the situation could be adequately met. Occupational and recreational therapy have been provided, sometimes by a professional occupational therapist, sometimes by a WPA worker, sometimes by a volunteer worker. In these programs the professional staff members have studied the emotional and social needs of the children and have tried with every means at their disposal to meet these needs.

When the child has completely recovered from his attack of rheumatic fever, the aim of follow-up treatment is to prevent him from having another attack. Recurrences are common. As yet no specific method for preventing recurrences has been found which can be used with safety and assurance. (The use of sulfanilamide or salicylates in this connection is still in the experimental stage.) Follow-up treatment, therefore, is directed at keeping the child's general health and resistance to disease at the highest possible level. This involves not only medical and nursing, but also social factors. Thus, the child is examined regularly by the staff pediatrician and any illness or defect is treated. Public-health nurses visit the home, suggest methods for preventing the spread of colds, for improving nutrition, for health living. Adjustment in social and economic factors is the job of social agencies, with the help of a medical-social consultant. They try to figure out how the family can move from a damp, dark house to a better one, how money can be obtained for better diet; how to persuade one mother that her child would be better off in a hospital, and another mother that her child is really well and able to lead a normal life.

Even though the child's heart may have been damaged by the attack of rheumatic fever, follow-up treatment is not primarily directed toward watching the child's heart. The older conception that a child with heart disease must be restricted in all his physical activities is fortunately dying out. Pediatricians now urge children with rheumatic heart disease to lead as normal a life as possible. Physical exercise in children with heart disease, except in rare instances, causes nothing but normal fatigue. There is no evidence to show that "overexertion" has ever harmed a child if no rheumatic infection is present.

One of the most important factors in helping solve the problem of rheumatic fever is the school. It is in the school health examination that heart disease is often discovered, and a child with rheumatic heart disease is a child who may have a recurrence of rheumatic fever. It is the teacher and the school nurse who will become aware of early symptoms of rheumatic fever if they watch for them. It is in school that epidemics of upper respiratory infection, so dangerous to the rheumatic child, must be prevented. It is frequently the school which can make a parent understand the importance of regular medical examinations for the child. It is the attitude of the school, transmitted through the child's teacher, and even his classmates, which is responsible in large part for the attitude of the child toward his disease.

Cooperation by all interested community agencies in an integrated plan for these children is the pattern which is being set up in the State rheumatic fever programs. Nothing less will meet the need.

TABLE

Pathological evidence of active rheumatic infection in postmortem studies of young persons with rheumatic heart disease.

Author	Age Group	Total Cases	Cases with—		Cases with no pathological evidence of active rheumatic infection
			Pathological evidence of active rheumatic infection	Aschoff bodies present	
Rothschild, Kugel, and Gross 13/.....	1-20 yr.	66	63	57	3*
Wilson 9/	20 mo.-17 yr.	26	24	19	2*
Jacobsen and Davison 14/	3-13 yr.	9	9	9	
TOTAL		101	96	85	5*

*These showed complications, such as acute bacterial endocarditis, in addition to rheumatic heart diseases.

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EDITORIALS

For the first time in decades, the death rate from tuberculosis is rising, if the figures from upper New York State prove to be characteristic of the country at large. Many feared that the serious financial depression, accompanied as it was in many cases by serious undernourishment and worry, might bring about this result, but we seemed to escape that hazard.

What are the possible—even probable—causes of the reversal of the downward trend? There seem to be several, but the major one probably is the enormous rush of people into industry as a part of the war effort.

Many thousands of women have left the comparative security and lighter work of the home to take part in the effort to win the war. There they are exposed to contact with large groups of workers, some of whom may have the disease in the communicable stage. They travel in crowded street cars and buses. They tend to "grab" a hurried breakfast, they eat insufficiently at luncheon time, they hurry home, and are too tired to prepare an adequate meal for themselves, or fatigue may cause them to eat lightly. If they are also the family housekeeper and cook, they prepare a poor meal—not only for themselves but for others of the family. The worker's nutrition becomes poor, and so does that of the rest of the group. The "cold" is often neglected. They feel that time cannot be spared for proper rest, recovery, or medical attention. The work itself is frequently exhausting, and any disease contracted makes rapid progress.

The men, too, in many cases, work harder than they have ever worked before. The temptation of the high wages of overtime leads them into extra hours. Some are holding two jobs. They have the same exposure to contagion that the women have. They, too, tend to neglect getting adequate rest and medical care and advice. Both men and women tend to "keep going" when in ordinary times they would take rest and vacations.

What should be done about this dangerous situation? The war work must go on. Efforts to detect and to isolate cases of tuberculosis must be greatly increased.

In those industries where it is not already being done, tuberculin testing followed by an X-Ray film of every positive reactor should be a condition of employment and repeated examinations at six month or at least at annual intervals should be a condition of remaining employed. An expensive procedure? Compared to the total war cost, or to the cost of caring for the active cases that otherwise would result in prolonged illness or death, the expense is slight.

This is the time too when, more than ever before, those of us engaged in school health work should drive for a preliminary and at least an annual testing and X-Ray film of all teachers. In many cases, they too are overworking. Perhaps their school load has increased, many are spending numerous hours per week outside the school in war activities. Large numbers, in addition to their school load, are carrying on a part or even a full time job in some war industry. In order to release some other household member for war work, they may have taken on heavy duties at home. These factors tend to increase the chances that they will become a tuberculous menace to their pupils.

This tendency for tuberculosis to increase is largely a problem in community health and welfare. While we should, so far as possible, maintain our personal freedom of choice, nevertheless we must compel recalcitrant industries and persons to protect health, *pro bono publico.* C. H. K.

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We are being told that a serious shortage of food threatens this country. All are being urged to grow food—the farmer to grow more and others to have home or vacant-lot gardens. The latter is excellent advice at any time, and with the scarcity and the rising price of food the individual garden may make the difference to some between scarcity and plenty.

Are the schools planning to do anything to further this project? Twenty-five or thirty years ago, almost no city considered its

school system adequate unless it was carrying on a group of "school" gardens, by means of which children were taught how to plant, weed, and cultivate vegetables and fruits. Consolidated schools have their agricultural departments and develop various growing procedures. From most of our cities, however, this phase of education seems to have disappeared. Those that continue to "carry on" get little or no publicity outside their immediate area. This is a marked contrast to the earlier period when text books were written and many articles published.

Why not have some school gardens? The children would learn and the parents need to. C. H. K.

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ABSTRACT

The Psychiatrist's Place in College,—The author of this article is one of America's foremost college psychiatrists. Those particularly interested in various aspects of psychiatry and mental hygiene as it pertains to college students should read without fail Dr. Fry's outstanding book.*

This article bears the caption, "Emotional disturbances in the college student are usually susceptible of analysis and correction, resulting in improved academic performance and social adjustment." The reading of this timely article brings about an understanding of the various causes of adjustment problems of the average undergraduate and how specially trained personnel may further the health, happiness, and social adjustment as well as academic efficiency of those in need of such specialist service.

The college psychiatrist's practice is chiefly concerned with the so-called "normal" student. The incidents of emotional difficulties might compare in frequency to various physical disabilities or acute illnesses such as sinus trouble or appendicitis.

It is the psychiatrist's special task to ascertain the facts about social and emotional difficulties which have usually failed to become solved through "common sense" or the "work it out yourself" method. A thorough-going investigation of the student's personality in the light of an adequate history, both personal and family, as well as the physical examination facts are the starting points for analysis after the complaint problem is formulated.

Dr. Fry's ten years of experience in college psychiatry has clarified misunderstanding or mystery as to why a particular stu-

* *Mental Health in College.* By Cements C. Fry, M.D., with the collaboration of Edna G. Rostow. New York, The Commonwealth Fund, 1942. Price $2.00. See review.

dent may not be making a satisfactory adjustment to his new world. Besides recognizing the normal emotional upheavals of late adolescence with the coincident behavior and attitudes relative to social and sex situations we find ambitions and various life values taking on more crystallization. Many students have not been adequately prepared by experience or training to meet successfully life away from home, and another environment where scholastic and social demands and opportunities challenge one's personality maturity. Overdependence upon one's family is a frequent cause of inability to assume responsibility and to make adequate choices and decisions relative to the evaluation of one's new environment and how to organize efforts to fit into it. Individual differences of course obtain and must be recognized and facilities for compensation shaped accordingly. Of essential importance is the need of making the grade socially, and in this regard some need more help than others. Conflict of difference obtains here as well as in academic ways and all too often make for bitter feelings of inferiority which often reflect themselves in a student's actions and emotions.

Good habits of study are essential in helping to prevent failure and retardation in academic achievement. Failure of various kinds tends to bring about guilt reactions which cause lowering of mood associated with impaired appetite and sleep and disordered digestive functioning. Of course depression may be normal as well as pathological, even to the point of self-destructive or suicidal tendencies and acts. With adequate psychiatric facilities, unfortunate results can usually be prevented.

As the student grows toward adulthood he is naturally seeking more self-reliance and the building up of good habits of acceptance of authority on the one hand and on the other hand the need of wholesome aggressivity to overcome one's handicaps (imagined or real). Life goals and a growing philosophy of life loom into the picture. Sympathetic understanding on the part of a confidant who is able to evaluate the total picture can ofttimes do much to meet life pressures and conflicts more successfully. Frequently sex knowledge and attitude is deficient (in about one-third of students seeking help for personality problems). The better understanding of oneself in the light of what he is able to achieve with reasonable satisfaction are important concerns of the psychiatrist who obligates himself to assist each student in need of help to a better technique and strategy of living.

Those who read this article carefully will be convinced that psychiatric services in college can do much to prevent abnormal

social, emotional, and personality problems developing as well as to salvage human material and to further higher satisfactions in university and college life. Hygeia, Vol. 20, No. 12, December, 1942. Pages 906-907, 148-950. Abstracted by Frederick L. Patry, M.D.

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Whooping Cough,—In the issue of the Journal of the American Medical Association of November 21, 1942, are three articles dealing with Whooping Cough.

Anne Morris Brooks, M.S., William L. Bradford, M.D. and George Parker Perry, M.D., discuss "The Method of Nasopharyngeal Culture in the Diagnosis of Whooping Cough." (P. 883) The authors describe a study comparing nasopharyngeal cultures with cough plate cultures. A total of 438 nasopharyngeal cultures from 248 cases of pertussis and 198 cough plate cultures from 157 cases were taken. Fifty-two percent of the nasopharyngeal cultures and 37 percent of the cough plates cultures were positive.

In a series of 248 primary (single, unrepeated) cultures, 152 (61 percent) were positive as compared with 58 positive (37 percent) in a group of 157 primary cough plate cultures.

A comparison of the two methods in successive weeks of the disease gave results as follows:

	Nasopharyngeal	*Cough Plates*
1st. Week	81 Percent positive	47 percent positive
2nd. "	72 " "	47 " "
3rd. "	62 " "	36 " "
4th. "	24 " "	17 " "
5th. "	11 " "	5 " "

Jesse G. M. Bullowa, M.D. et al. (p. 886) present a clinical and immunologic study involving the immunity actively induced and passively conferred in well and in ill children based on the fact recently demonstrated by Merritt Roberts that endotoxin and exotoxin of hemophilus pertussis are identical and on the fact previously demonstrated that this toxin is antigenic. One hundred unselected children were given pertussis toxoid antigen and 35 were given pertussis vaccine. Blood titers after injections indicated that both toxoid and vaccine produce a rise in neutralizing antibody. Although there have been nine known exposures, to date only one child who had received toxoid has contracted the disease. An attempt was made to modify the course of the disease by giving vaccine and toxoid to sick children. No clinical improvement was noted from either specific agent. The prophylactic and therapeutic effect of an antitoxin produced in rabbit was studied. Thirty-three children with pertussis were given the antitoxin. No decided clinical

improvement was noted in any case. To another group, 25 exposed children, antitoxin was given to prevent pertussis. The age of the exposed children ranged from 18 days to 7 years with 19 children under 5 years. The usual duration of exposure before prophylaxis was ten days. Of the 25 children given the antitoxin only one child contracted the disease. Hesbacher estimates the expected incidence of secondary cases in exposed children under 5 at 90 percent. Dr. Lewis Henry Koplik in discussing the paper pointed out that the passive immunity of antitoxin is transitory as well as sensitizing to the species of serum used. Dr. Bullowa in closing the discussion deplored the fact that pertussis is sometimes regarded exclusively as a respiratory disease, and cited the fact that Dr. Dolgopol at Willard Parker Hospital found encephalopathy as well as pneumonia in half of 31 autopsies on patients dead from pertussis.

Levine and Levy presented a study (p. 890) of the personality changes and behavior disorders which may occur in children many years following an attack of whooping cough suffered early in infancy. The study concerned itself with a group of 58 children who suffered from whooping cough at the age of 2 years or younger. In 34 or 58.6% of the 58 children in the group there appeared to be a definite relationship between the neurologic sequelae of the whooping cough and the behavior disorders and personality changes shown by them later in life. From the standpoint of behavior, the 34 children were divided into four groups. The first group showed types of behavior which were classifiable either as pre-psychotic or definitely psychotic. Eight children were so classified. Paranoid ideas, visual and auditory hallucinations, and a tendency to withdraw from reality were among the outstanding characteristic symptoms exhibited by this group.

In the second group were placed those children (6) who showed progressive intellectual deterioration. These children were for the most part tractable, but because of the progressive nature of the mental retardation they were unable to make normal adjustments to their life situations.

The third and largest group was composed of seventeen children who exhibited typical postencephalitic type of behavior. The outstanding behavioral characteristics of this group were extreme motor restlessness, impulsiveness with a tendency to destructive activity and unpredictable behavior. Characteristically very few of these children showed any intellectual retardation.

The fourth group consisted of 3 children who showed a type of behavior that was a combination of two or more of the foregoing types. (Abstracted by S. B. McPheeters, M.D.)

Physical Fitness Through Physical Education,—The demands of war necessitate many changes in school programs, none of which are more significant than those relating to physical education. Programs which were satisfactory in peace times do not meet present day needs. Previous to Pearl Harbor, physical education objectives relating to recreational interests and social education were receiving major attention. Now attention must be centered on the objectives of individual strength, and endurance. Fighting men need to develop these qualities to the maximum degree possible. High school programs of physical education must be modified so as to give every normal boy opportunities for developing these essential needs of soldiers and sailors. Girls too, must have opportunities of preparing themselves for the rigors of the auxiliary services.

As an aid to high schools, principals, directors of health and physical education, and teachers of physical education, the U. S. Office of Education has issued "Physical Fitness Through Physical Education."[1] This neatly printed and attractively illustrated bulletin was prepared by a committee appointed by Dr. John W. Studebaker, U. S. Commissioner of Education and working under the Chairmanship of Jackson R. Sharman, Principal Specialist in Physical Fitness, U. S. Office of Education. The report has been approved by the National Policy Committee for the Victory Corps which includes representatives from the War Department, Navy Department, Department of Commerce and the U. S. Office of Education Wartime Commission.

The bulletin does not suggest a standardized program to be followed routinely in every school, but suggests various types of activities which can be modified or adapted to meet the needs of each school.

That many schools will have to make changes in their physical education programs if the suggestions contained in "Physical Fitness Through Physical Education" are to be incorporated is recognized. Some of the changes which may be necessary are listed as follows:

"1. Increase in time for instruction and participation in physical education activities;

2. A requirement that all normal pupils participate regularly,

1. Obtainable from the Superintendent of Documents, Goverment Printing Office, Washington, D. C. Price 25 cents.

3. An increase in the intensity and ruggedness of the activities included in the program; and
4. Changes in the methods of program planning, class organization, and teaching."

One chapter of the bulletin was prepared by the United States Public Health Service and is devoted to the "Selection of Pupils for Training." This points out the need of safeguarding the health of students by having them obtain a medical examination previous to participation in vigorous activity and recognizes the fact that many schools will have limited amounts of service from school medical advisers. Detailed suggestions are offered for obtaining and evaluating student case histories, for teacher observations of student's health, and for observing their reaction to activity.

An interesting comparison between activity in military units and activity in schools is contained in the following paragraphs:

"Physical training in the armed forces is, necessarily, more strenuous than any high school program. It has, however, a safety factor which is absent in many schools. In the armed forces, the men have been found "healthy" by thorough medical examination and have ready opportunities for medical consultation. In many schools, the pupils have neither the one nor the other. In those schools, rigorous training is more risky than in the fighting forces.

"The medical examination eliminates avoidable hazards. In the Army it leaves the training officer with a group which is "healthy" to the best of contemporary knowledge. If in this group a man collapses it is an unavoidable price paid for the progress of the group. If a high-school student collapses in training, without previous medical examination, that might have been avoided and cannot be excused by the importance of training."

"Physical Fitness through Physical Education" recommends the continuation and expansion of all parts of modern physical education programs. The class program should concentrate on activities which develop strength and endurance. Intra-mural athletics should be encouraged and broadened in scope. The interscholastic program should include many teams rather than one, and should minimize travel.

A chapter on "Standards and Tests" presents material useful in classifying pupils according to their abilities and helpful in evaluating the results of programs. The standards presented include such activities as push-ups, pull-ups, dip on parallel bars, 15 ft. rope climb, 20 ft. rope climb, bar vault, potato race, jump and reach,

standing broad jump, running broad jump, running high jump, 100 yard dash and 440 yard run.

The final chapter of "Physical Fitness Through Physical Education" presents a broad interpretation of the term "physical fitness" and discusses areas of school programs other than physical education which contribute to fitness. These areas include: control of communicable disease, nutrition, healthful environment, health guidance, and health teaching. It is stated that these topics will be discussed in detail in subsequent publications of the U. S. Office of Education.

Physical Fitness through Physical Education contains many valuable, constructive suggestions for school physical education programs. It should help to improve programs and to adapt them to war-time needs. Abstracted by Charles C. Nelson, M.D.

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NOTES

Tuberculosis,—For the first time in almost twenty years, there has been an apparent interruption in the steady decline in tuberculosis mortality in upstate New York. Dr. Robert E. Plunkett, General Superintendent of Tuberculosis Hospitals, reports that provisional figures for the first eleven months of last year indicate an increase in both the number of deaths from tuberculosis and the death rate from the disease among residents of New York State outside of New York City. During the period January-November of 1942, 1995 upstate residents died from tuberculosis as compared with 1893 during the corresponding period of 1941. The resident death rates per 100,000 population, estimated from eleven months' figures, were 35.7 in 1942 and 34.1 in 1941. New cases of tuberculosis reported during the entire year increased from 5559 in 1941 to 6308 in 1942. Health News, Vol. 20, No. 3, January 18, 1943, p. 9.

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REVIEWS

Mental Health in College,—*Clements C. Fry, M.D. with the Collaboration of Edna G. Rostow.* The Commonwealth Fund, 1942, 365 pages, Price $2.00.

The stress of our present times makes this text particularly timely. The college youth today has not only the usual problems of late adolescence to face, but the world turmoil and the imminence of having his life plans disrupted and the chance of illness, injury, or even death in battle tend to create special mental hazards.

After setting up the problem to be discussed—the factors created by a new environment, by leaving familiar scenes, family and

friends, by scholastic readjustment, by physically maturing, and by the need for sex adjustment (the latter usually made worse by lack of accurate information) and by greater freedom from restraint—the author (Psychiatrist in the University Health Department at Yale) sketches the materials of the study and then discusses the various problems of personality growth: family relationships and sexual growth, behavior, and attitudes.

Third, he explains the environment at Yale at the undergraduate level; the scholastic adjustment of the student at the various academic-year levels; and many of the numerous factors involved in social adjustment.

Lastly are taken up special problems as they relate particularly to the graduate and professional school, and to serious mental disorders, which do arise even with the best of study and advice regarding student problems. Many of these are aftermaths of events or environments previous to entering the University.

This is a badly needed and excellent text. It is profitable reading for parents of adolescent children, and for the family physician. Being set up on the case study and report plan, it should be a part of the knowledge of every college physician. Deans and advisers would better fulfill their functions if they would study and use the information in this text. Charles. H. Keene, M.D.

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The School Doctor and the Otoscope,—*M. B. Wilson, M.B., Ch. B.D.P.H.*, The Medical Officer, August 1, 1942, P. 37.

The Medical Officer for August 1, 1942, gives a table showing the results of otoscopic examinations of 2,009 children in Leicester, England schools with the result that 67 children were referred for treatment as follows: 37 for wax; 16 for otorrhea; 1 for mastoid; 6 acute congestion; and 7 for catarrhal conditions—i.e. retraction and dullness.

Of the 16 cases referred for otorrhea, 9 were found with no external discharge and so may be regarded as cases that would have been missed if an otoscope had not been used.

The author points out that their figure of 16 cases of otorrhea is a rate of 8 cases in 100 children as compared with the results of routine inspections, presumably without the help of the otoscope, which were about ½ that rate.

An editorial accompanying this article states: "To neglect the regular practice of otoscopy of children might by now almost be construed as medical negligence." Harold H. Mitchell, M.D.

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MEETINGS

American Association for Health, Physical Education, and Recreation at Cincinnati, Ohio, April 13-16, 1943. In cooperation, Luncheon Program of American School Health Association.